Title: Invariant norms on the p-adic Schrodinger representation.

Amit Ophir, Hebrew University of Jerusalem.

Abstract: Motivated by questions in p-adic Fourier theory, we study invariant norms on the p-adic Schrödinger representations of Heisenberg groups. These Heisenberg groups are p-adic, and the Schrodinger representations are explicit irreducible smooth representations that play an important role in their representation theory. Classically, the field of coefficients is taken to be the complex numbers and, among other things, one studies the unitary completions of the representations (which are well understood). By taking the field of coefficients to be an extension of the p-adic numbers, we can consider completions that better captures the p-adic topology, but at the cost of losing the Haar measure and the L^2-norm. Nevertheless, we establish a rigidity property for a family of norms (parametrized by a Grassmannian) that are invariant under the action of the Heisenberg group. The irreducibility of some Banach representations follows as a result. The proof uses "q-arithmetics".